

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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CONTENTS

	PAGE
Editorial Comment	
Another "Daily Mail" Prize	349
Are We on the Right Track?	350
"Santa Maria"	351
R.A.F. Display at Hendon	352
Royal Aero Club Official Notices	353
London Aeroplane Club	353
The Round-Germany Flight	354
Italian Rome-Australia Flight	361
Daily Mail Prize	361
Personals	362
Royal Air Force	363
R.A.F. Intelligence	363
In Parliament	363
Air Post Stamps	364

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

1925

- June 12 Entries close for King's Cup Race.
June 23 Independent Force (R.A.F.) Re-Union Dinner, R.A.F. Club, 7.45 p.m.
June 25 Aero Golfing Soc. Match, Mid-Surrey.
June 27 Royal Air Force Pageant, Hendon.
June 27 R.A.F. Iraq Dinner, Holborn Restaurant, at 8.15 p.m.
July 3-4 King's Cup Race.
July 26-Aug. 9 Vanville Light 'Plane and Glider Meeting.
Aug. 1-3 Royal Aero Club Race Meeting at Lympne.
Sept. 19-28 F.I.A. Conference at Prague.
Oct. 8 Aero Golfing Soc. Autumn Meeting, Walton Heath.
Oct. 24-29 Schneider Cup Race, Baltimore, U.S.A.

1926

- Aug. Light Aeroplane Competition.

EDITORIAL COMMENT.



Another "Daily Mail" Prize

ONCE more the *Daily Mail* has come forward, and, with commendable generosity, has offered a large prize for the encouragement of aviation in great Britain. It would be superfluous to recall to readers of *FLIGHT* the numerous magnificent gifts with which the Harmsworth family has, during the last twenty years or so, endowed the science and practice of flying, and the latest example—a handsome prize of £5,000—is now being offered for the best performance by a type of machine in which aviation circles the world over are particularly interested just at the moment, *i.e.*, the light 'plane. Details relating to this, the latest *Daily Mail* offer, are given elsewhere in this issue of *FLIGHT*, and although certain points still remain to be settled, the broad outline of the conditions is a competition over a total distance of 2,000 miles for machines fitted with engines not exceeding 170 lbs. in weight. This basis, it will be realised, is the same as that which has been adopted for the Air Ministry light 'plane competition to be held next year, and, at the moment, it is not certain whether the *Daily Mail* competition will precede or follow the Air Ministry's competition. In view of the relatively small cost of producing a light 'plane, the very handsome offer of the *Daily Mail*, coupled with any prizes which the Air Ministry and others may offer next year, should provide a very strong incentive to constructors to produce machines of the right type.

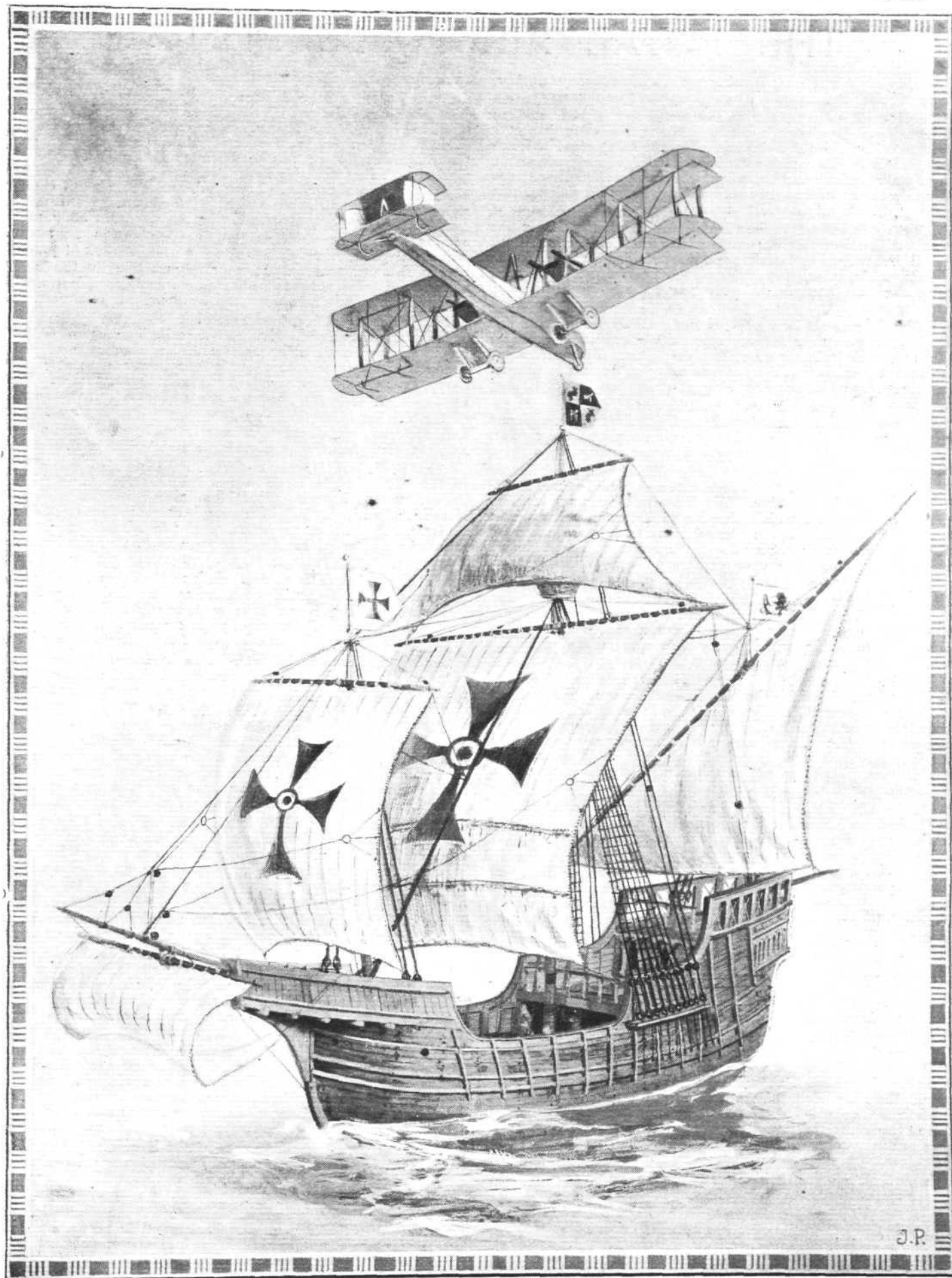
While greatly appreciating the generosity of the proprietors of the *Daily Mail* and their desire to help forward the cause of aviation, or, perhaps we should rather have said, because we appreciate this spirit, we cannot help thinking that if the original intention is adhered to without any other conditions, the splendid encouragement given by the *Daily Mail* may fail to do as much good as the very liberal amount of the prizes should be capable of producing. The fault does not, of course, lie with the *Daily Mail*, but is fundamental, and due to the

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It was, we think, Sir Henry White Smith, who suggested, at a meeting of the Royal Aeronautical

If the power was increased by using a higher-class construction and better materials, to 70 h.p. without increasing the engine weight, the consumption would have to be reduced to 0.518 lbs./h.p./hr., which is not an impossible figure by any means. Again, supposing by the use of the highest grade materials and most scientific design the engine weight could be lightened by 30 lbs., giving an engine weight of 150 lbs. instead of 180 lbs., and the fuel and oil consumption per h.p. remained the same, then the power developed would be 84.5 h.p. As this would represent a specific engine weight of 1.775 lbs. per h.p. it would certainly necessitate an expensive engine, whilst there is little likelihood of the fuel consumption being appreciably better than the figure mentioned. Therefore, taking 325 lbs. as a basis for weight of engine, fuel and oil for four hours, a very effective guard would be provided against reaching higher powers than those really required.

THE Air Ministry announce that arrangements have now been completed to train a number of skilled fitters as aero engine fitters and skilled and semi-skilled carpenters as carpenter-riggers. This will give an opportunity to many to acquire a knowledge of a highly specialised trade of increasing importance. Full particulars and conditions of service may be had on application to the Inspector of Recruiting, Royal Air Force, 4, Henrietta Street, Covent Garden, London, W.C.2.



TWO ATLANTIC CROSSINGS : Six years ago, on Sunday next, a Vickers' "Vimy" with two Rolls-Royce engines, piloted by the late Sir John Alcock, and navigated by Sir A. Whitten Brown, left Newfoundland on its flight across the Atlantic, landing 16 hours 12 mins. later at Clifden, Co. Galway, Ireland, thus completing the first non-stop flight across the Atlantic. Columbus's ship "Santa Maria," left the Canary Islands on September 6, 1492, and made a landfall at what is now known as Watling Island, in the Bahama group, on October 12. The object of the above illustration is to show the comparative sizes of the craft, and it might be pointed out that the drawing was made over a photograph of two models made to the same scale and photographed in position in the vertical plane, so that even taking into account the effect of perspective a correct idea of relative sizes is obtained.

THE ROYAL AIR FORCE DISPLAY

THE Royal Air Force display at Hendon on Saturday, June 27, will demonstrate in some degree the progress which is constantly taking place in the organization and training of the Royal Air Force. The very change in name this year is a move in the right direction. In previous years the function has been described as a "Pageant," which was about as bad a word as could have been chosen. It suggests something pretty to look at, possibly of historical and sentimental interest, but with no practical bearing on the lives of men in the twentieth century. The Royal Air Force stands for the very antithesis of all this—except only for the pleasure given to all by watching its manœuvres. "Display" is a less objectionable word, but still not the best that might have been chosen. The function so described is to the Royal Air Force what the Royal Tournament is to the Royal Navy and the Army. It is a part of the warlike training of the force, it offers prizes for supreme skill in carrying out that training, and it invites the tax-paying public to take an interest in the work of the force and to find delight in watching the highest pitch of efficiency to which training, drill and discipline can bring officers, men, and machines.

Hitherto in the pageant certain pilots and certain squadrons were picked to give exhibitions of their skill to the public. This year the performers, if one may use the word, will be the winners and runners-up of competitions in various forms of air drill, bombing, sham fighting, etc. This is most certainly a step in advance. We have not yet, apparently, reached the point, which the Royal Tournament reached so long ago, of seeing the competitions take place night by night between units for a period of weeks. The public has always been thrilled at seeing teams from two ships race to get their guns over walls, or two parties of sappers in rivalry building bridges over imaginary streams; and we believe that if the R.A.F. Display could be held for several days' running, the public would come to feel a live interest in, say, Biggin Hill, Kenley, Northolt, and even in the particular squadrons stationed at those aerodromes, which in present circumstances is hardly to be expected. Everyone knows how the Worcester Regiment saved the first battle of Ypres, everyone is familiar with the saying "Steady, the Buffs!" and everyone has heard of the "Fighting Fifth." But how many know that No. 25 (Fighter) Squadron shot down Immelman, that Ball and McCudden were in No. 56 (Fighter) Squadron, and that the present Squadron Leader of the latter is Sir Christopher Brand, who flew from England to South Africa? The Chief of the Air Staff has spoken recently of inducing the public to take more interest in service flying. One very good way of doing so is to give the public a chance of indulging its taste for partizanship and hero-worship. The relations of the Air Force and the public will not be really healthy until some squadrons—all, if possible—have been given popular nicknames. If at the coming Display the public learns, as it probably will, to think of No. 25 as "The Cuckoos," the first step in the right direction will have been taken.

The reason for this probability is the advance made in radio-telephony. Previously the leader of a formation had to signal his orders to the other pilots by some visual code. Now he is able to talk to them, and it is obviously better to call some unmistakable title such as "Cuckoos" than a cold "Twenty-five," with the chance of getting connected to a wrong number. At the Display on the 27th inst., the orders of the leader will be picked up by a ground station and broadcast, so that the spectators will hear the order above the roar of the engines, will learn the call title of the squadron over their heads, and will see what is the manœuvre which the leader has ordered. This will be thoroughly educative as well as interesting. It is hoped that the King himself will give order by word of mouth to a squadron in the air.

A sort of rehearsal by some of the squadrons which will

take part in the Display was held at Kenley aerodrome on June 5, and very interesting it was to those journalists who were privileged to be present. Actual competitions were also held and were judged by Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., who commands No. 6 Group. This Group, which has its headquarters at Kenley, is a Fighter Group, and includes the eight Fighter squadrons at present in the country, viz., Nos. 17 (Snipe) and 25 (Grebe) at Hawkinge, 19 (Snipe), 29 (Grebe) and 111 (Siskin) at Duxford, 41 (Siskin) at Northolt, 32 (Grebe) at Kenley, and 56 (Grebe) at Biggin Hill, as well as the Communication Squadron, No. 24, at Kenley, which is still using up the stock of general utility Bristol Fighters. It is gratifying to note that only two of the Fighter Squadrons in this country are still equipped with the obsolete Snipe. The progress in re-equipment during the last few months has been good.

No. 25, under Sqdn.-Ldr. A. H. Peck, D.S.O., M.C., gave a fine display of air drill, and some of the manœuvres were somewhat intricate. But it is absolutely necessary for every squadron to be precise in changing formation. The loud speaker gave the audience some insight into the names of the various formations, and the words of command. Air drill appears to be based on an admixture of fleet manœuvres and infantry drill. But the art of air drill is in process of development, and is still liable to modification. The army, in the last 25 years, has endured several issues of new drill books, but each new edition has aimed in the main at simplification. May the Air Force be no more unfortunate.

After the drill came practice of the attack on hostile aircraft, represented by Bristol fighters of the Communications Squadron. Each attack was carried out by one flight, consisting of three machines. In attack No. 1 the leader, presumably the flight-lieutenant, stays up above the fight, as a sort of general reserve, while his two companions engage the enemy, one from above and one from below. In attack No. 2, all three machines engage the enemy from right, left and rear, timing their flight so as to cause the maximum of confusion to the enemy's gunners. The escape-after this attack and the quick reform of the flight, needs to be carried out very smartly. Low bombing of an object such as a tank, the deck of a ship, or a submarine, was also displayed, the pilots working by judgment, without bomb-sights.

The display, of course, will not be confined to the fighter squadrons, although No. 6 Group is only concerned with them. Bombing squadrons will also play a large part in it. Four bombing squadrons will manœuvre together, making 36 aeroplanes in all. The bombers, of course, are our offensive machines, and it is a recognised truth that attack is the best defence. The fighters are essentially defensive craft, though that may seem a paradox until one thinks about it for a minute. The public are apt to be caught by the glamour of the fighters, just as cavalry seems more attractive than infantry. But the Chief of the Air Staff, in his speech at Cambridge, said that the aeroplane (that is, the bomber) is the most offensive weapon that has ever been invented. He went on to say that it (meaning this time the fighter) is a shockingly bad weapon of defence. Sir Hugh undoubtedly did not mean to cast aspersions on No. 6 Group, but still his words should prevent us from depreciating the bombers because they are less fast and active than the fighters. It must be fear of our bombers rather than fear of our fighters that must give the next "Mad dog of Europe" pause before attacking us. So the great parade of four bombing squadrons manœuvring in the air together will be one of the most impressive sights of the display. There will be other attractions, too, of which more anon; but enough has been said to show that the educative value of the display will be greater than that of any pageant in the past.

The "Los Angeles" in Trouble

THE U.S. Airship "Los Angeles" left Lakehurst on June 7 for Minnesota in order to take part in the Norse celebrations at Minneapolis, but when half-way there engine trouble developed and she had to return to Lakehurst. On arriving there thick fog prevented her making fast for several hours. Eventually, however, this was safely accomplished, after the airship had been aloft for 12 hours.

"Alan J." has a Mishap

WHILE flying to Berlin on June 4 in the D.H. "Moth," with Lieut.-Col. Edwards, of the Air Ministry, as passenger, Alan J. Cobham had to make a forced landing, on rough

ground, near Middelharnis, and in doing so, ran into a dyke. The "Moth" was slightly damaged, but neither Cobham nor Col. Edwards were hurt—the latter proceeding to Berlin by rail.

Presentation to Crew of R.33

ON June 4 last Sir Samuel Hoare, Secretary of State for Air, presented the members of the crew of the R.33 with gold watches, in appreciation of their gallant conduct during the "break-away." The ceremony took place in the large hangar at Pulham, beneath the damaged nose of the R.33, now undergoing repair.

THE ROYAL AERO CLUB OF THE U.K.

OFFICIAL NOTICES TO MEMBERS

THE ROYAL AIR FORCE DISPLAY

THE Royal Air Force Display in aid of the Royal Air Force Memorial Fund, will be held at the London Aerodrome, Hendon, on Saturday, June 27, 1925. Tickets for enclosures (10s. and 5s., and motor-cars 5s.) may be obtained from the Royal Aero Club.

There will be no free admission on this occasion.

Members of the Royal Aero Club have been elected Honorary Members of the London Country Club, Hendon, for the day of the Display. Members wishing to lunch there are requested to book their tables beforehand. Telephone: Kingsbury 260.

THE KING'S CUP RACE, JULY 3 AND 4, 1925.

The following alterations to the Supplementary Regulations have been made:—

Starting and Finishing Place.—Croydon Aerodrome.

Course.—The course for each day is as follows:—

Friday, July 3, 1925

First Circuit.—*Starting Place.*—Croydon Aerodrome.

Controls.—Harrogate (The Stray), 191 miles; Newcastle-on-Tyne (Town Moor), 70 miles; Renfrew Aerodrome, 124 miles; Sealand Aerodrome, Shotwick, Cheshire (*via* Blackpool, *see* below), 193 miles; Bristol (Filton Aerodrome), 119 miles.

Finishing Place.—Croydon Aerodrome, 107 miles. Total, 804 miles.

The first circuit must be completed by 10 p.m. on Friday, July 3, 1925. Aircraft not having arrived at Croydon Aerodrome by that time will be eliminated from the race. Aircraft must not leave the aerodrome until their starting time the following day.

Saturday, July 4, 1925

Second Circuit.—*Starting Place.*—Croydon Aerodrome.

Controls.—Bristol (Filton Aerodrome), 107 miles; Sealand Aerodrome, Shotwick, Cheshire, 119 miles; Renfrew Aerodrome (*via* Blackpool, *see* below), 193 miles; Newcastle-on-Tyne (Town Moor), 124 miles; Harrogate (The Stray), 70 miles.

Finishing Place.—Croydon Aerodrome, 191 miles. Total, 804 miles.

The race will close at 10 p.m. on Saturday, July 4, 1925.

Turning Point at Blackpool.—In addition to the above controls there will be a turning point at Blackpool. The turning point will be the Blackpool Tower. Approaching Blackpool from the north, *i.e.*, Renfrew to Shotwick, competitors must pass this tower leaving it on their right at a distance not exceeding 300 yards and at a height of not more than 1,000 ft. Approaching Blackpool from the south, *i.e.*, Shotwick to Renfrew, competitors must pass the tower leaving it on their left, not exceeding the distance and height specified above. *Competitors do not alight at Blackpool.*

Croydon Aerodrome should be read in all regulations instead of Hendon Aerodrome.

Entries close on Friday, June 12, 1925.

Competitors will be started on handicap times each day, the first leaving at 6 a.m. The finish each day at Croydon should be between 6 and 7 p.m.

Members and Associates of the Royal Aero Club will be admitted free to Croydon Aerodrome each day on presentation of their membership badges. Motor-cars, 2s. 6d. each.

Racing Fund.—The Royal Aero Club has received the following donation: Sir Charles Greenway, Bart., £100.

RACING COMMITTEE

A MEETING of the Racing Committee was held on Wednesday, June 3, 1925, when there were present:—Air Vice-Marshal Sir W. S. Brancker, K.C.B., in the chair; Lieut.-Col. W. A. Bristow, Capt. R. J. Goodman Crouch, Lieut.-Col. M. O. Darby, O.B.E., Lieut.-Col. F. K. McClean, A.F.C., Mr. Howard T. Wright, and the Secretary.

The King's Cup Race.—*Course.* It was decided to use Shotwick Aerodrome instead of Woodford Aerodrome. It was further decided to have a turning point at Blackpool.

Starting and Finishing Place.—It was decided to use Croydon Aerodrome for the start and finish of the race instead of Hendon, as originally announced.

Light Aeroplane Competition, 1926.—The Committee considered the various recommendations of the Joint Committees of the Club, the S.B.A.C., and Air Ministry.

August Race Meeting, Lympne.—The programme of races was approved.

SUB-COMMITTEE ON LIGHT AEROPLANE COMPETITION, 1926

A MEETING of the Sub-Committee on Light Aeroplane Competition, 1926, was held on Tuesday, May 26, 1925, when there were present:—

Royal Aero Club.—Air Vice-Marshal Sir W. S. Brancker, K.C.B., in the chair; Lieut.-Col. W. A. Bristow, Capt. R. J. Goodman Crouch, Lieut.-Col. M. O. Darby, O.B.E.

Society of British Aircraft Constructors.—Capt. H. E. P. D. Acland, Mr. John Lord.

Air Ministry.—Maj. J. S. Buchanan.

In attendance: J. T. Brown, Assistant Secretary, S.B.A.C., and H. E. Perrin, Secretary, R.Ae.C.

Two-Seater Light Aeroplane Competition, 1926.—The draft regulations were further considered and approved.

The views of the Club and the S.B.A.C. were that the Air Ministry should have the option of purchasing a number of the competing machines at a fixed price. The Club undertook to express these views to the Air Ministry.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W.1.
H. E. PERRIN, Secretary

THE LONDON AEROPLANE CLUB

THE Royal Aero Club has been selected by the Air Council to carry out in the London District the Council's Scheme for Light Aeroplane Clubs. To meet the situation, the Royal Aero Club has formed the **London Aeroplane Club**. The Club is formed with the object of bringing together as Members of the Club persons interested in flying, and for the purpose of providing and maintaining aeroplanes for the use and instruction of Members of the Club. Membership of the Club is open to British subjects only, and will consist of Ordinary and Associate Members, open to both sexes.

Subscriptions have been fixed as follows:—

A. Ordinary Members. £3 3s. per annum. For Members who desire to take instruction in flying, and those who, being qualified, wish to hire the aeroplanes provided by the Club. The Ordinary Membership subscription for Members of the Royal Aero Club shall be £2 2s. per annum.

B. Associate Members. £1 1s. per annum. For Members who desire to support and encourage aviation by attendance at the aerodrome. Associate Members shall be entitled to take passenger-flights when aeroplanes are available, at the charges set out below. Charges for flying will be:—

(a) *Two-Seater Dual Control.*—£1 10s. per flying hour, which charge includes the cost of instruction, oil and petrol, damage to aeroplane and third-party insurance.

(b) *Single-Seater.*—£1 per flying hour, which includes the cost of oil and petrol, damage to aeroplane and third-party insurance. The minimum time for which aeroplanes may be hired will be half an hour. Subject to the prior claims of

instructional and solo flying. Associate Members will be permitted to hire aeroplanes for passenger flying at the rate of £1 10s. per flying hour.

It is hoped to be able to commence flying instruction early in July. Two D.H. "Moth" machines have been acquired out of the grant made by the Air Council, and fully qualified pilot instructors will be available to give flying instruction to the members daily, including Sundays.

It is hoped that members who are able to do so, will attend at the aerodrome during the week so as to reduce as far as possible any overcrowding at the week-ends. The acquisition of additional machines depends on the extent to which the scheme is supported.

The aerodrome selected is the De Havilland Aerodrome, Stag Lane, Edgware. This aerodrome is easily reached by the trams and buses on the Edgware Road, which pass the entrance to the aerodrome. Burnt Oak Station on the Hampstead-Golders Green Tube Railway is a few minutes' walk from the aerodrome.

As regards liability, the Club accepts responsibility for damage to their aeroplanes, and legal liability for damage to third parties, except where such damage to aeroplanes or to third parties is caused wholly, or in part, by a wilful breach of the rules of the Club.

A Membership Badge will be issued to each Member upon payment of the subscription for the year, these badges being distinctive of the class to which each Member belongs, whether Ordinary or Associate, and will be valid for one year.

THE ROUND-GERMANY FLIGHT

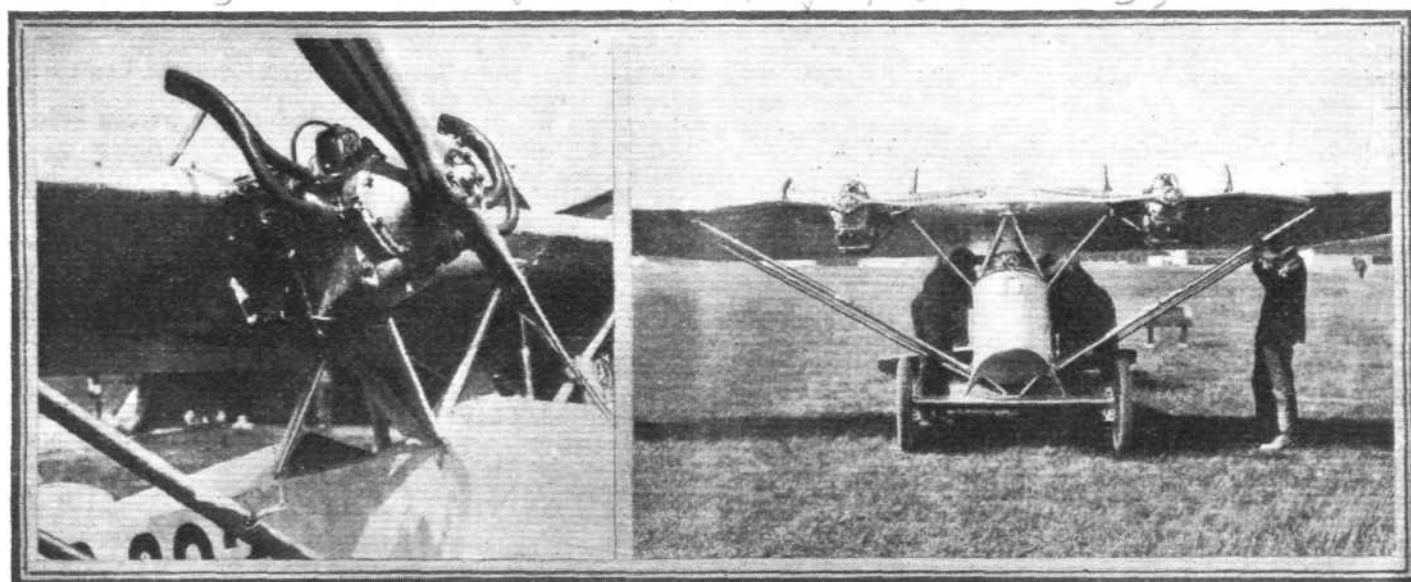
TECHNICAL EQUIPMENT

Some Impressions by the Technical Editor

THE Round-Germany flight has come to an end, and the results in the various circuits, in so far as accurate information has been obtainable, will be found in the article on pp. 359-360. In the following notes it is proposed to give some impressions of the machines and engines which took part in the competition, and, although time did not allow of a very close inspection of each machine taking part, nor space permit of publishing a detailed account were this possible, it is hoped that the following general impressions may not be without interest. Figures of weights and performance of many of the competing machines were given in a previous issue of *FLIGHT*, and will not therefore be repeated here, but rather is it intended to deal with general questions of aerodynamic and structural design. It may be stated at once that, generally speaking, there was comparatively little that was new in the Rundflug, most of the competing machines being of well-known types, and it is somewhat unfortunate that the great majority of really new designs did not turn up during our stay in Berlin. This applies particularly to the machines entered by the Bahnbedarf Company, by Herr Arthur Martens, by the Messerschmitt Company of Bamberg, and by the L.F.G. Works of Stralsund, as well as those entered by the experimental works recently established by the famous pre-war German pilot, Herr Hellmuth Hirth. Not only were some of the machines of old type, but actually one or two were of pre-war design, even if of fairly modern construction, among

greatly improved aerodynamic efficiency, but apparently the Germans have found that in translating the glider into a power-driven machine a number of problems arise which almost inevitably lead to the resulting aeroplane being very far removed from its glider prototype, even where an attempt has obviously been made to incorporate as far as possible the known efficiency of the glider.

There is little doubt that most people in this country expected that in the German competition the great majority of the machines would be of the monoplane type. This did not prove to be the case, and in point of fact, the two types appear to be fairly evenly divided, with probably the biplane leading slightly. This change in German opinion is not so much the result of aerodynamic as of structural considerations, and should perhaps, strictly speaking, be dealt with when we come to consider the constructional side, but attention should be called to the fact that there is a definite change of opinion among German designers in favour of the biplane. In this connection it may be pointed out that in the case of one firm which has hitherto designed and built nothing but monoplanes, their first biplane was designed specially for the Rundflug. Mention was made last week of the fact that during the past year or so there have been in Germany a not inconsiderable number of breakages in the air of machines of the monoplane type, and that this has caused among German pilots, and to some extent among the con-



A TWIN-ENGINE LIGHT 'PLANE : The Mercedes Daimler L. 21, built as a parasol monoplane with two Mercedes Daimler engines built into the leading edge of the wing. On the left is shown one of the 19-h.p. engines, while on the right is a front view of the central portion, which gives a good idea of the strut bracing arrangement.

which was the Albatros L.30, which was identical in every respect, even to strut and undercarriage fittings, with an Albatros in which the writer made a flight, as passenger, with Herr Robert Thelen from Hendon to Farnborough shortly before the outbreak of war in 1914. Even the engine was the good old 100 h.p. "Merc."

GERMAN AIRCRAFT DESIGN

If the Rundflug did not afford quite as good an opportunity for detailed inspection as does an aero show, for example, it did, at any rate, have the very great advantage that machines were to be seen in flight as well as on the ground, and that it was thus possible to form a fairly clear opinion as to their flying qualities. Here it should be mentioned that, although the development of the super-efficient type of monoplane glider in Germany some years ago was thought to herald the commencement of a new era in German aircraft design, the Rundflug machines were somewhat disappointing. With gliders having a maximum L/D of 20 or more, it might have been expected that German aeroplanes would have shown very

constructors, a certain distrust of the monoplane, which type at present seems to be under a ban not unlike that in England round about 1912 or 1913. Whether the present misgivings concerning the monoplane in German aircraft development are likely to be of a permanent nature or whether the objections to the monoplane will be overcome, is difficult to say. The fact remains, however, that at the moment the Germans are not nearly so sure of their monoplane as they were a few years ago. It should be pointed out that these remarks apply particularly to the smaller machines, and that in the case of large commercial aircraft the monoplane is, and appears likely to remain, far and away the most popular type. The dominating influence in German commercial aviation at present is, of course, the Junkers works, and hitherto Junkers has, it must be admitted, remained true to his monoplane ideal, not only in his large commercial machines, but also in the smaller types, of which a considerable number are in the competition. It seems likely that in the case of the Junkers works the preference for the monoplane type is mainly due to the all-metal construction in which the Junkers works specialise.

In aerodynamic design of biplanes this country has, we think, nothing to learn from Germany. Cantilever biplanes were entirely unrepresented in the Round-Germany flight and the braced biplanes were of quite orthodox design; indeed, one might even say old-fashioned, since plain stranded cables seem still to be used exclusively for the wing bracing, and one did not observe a single instance in which streamline wires had been employed. In the Heinkel machines an attempt had certainly been made at reducing the biplane bracing to a minimum by giving the wings a stagger and using but a single set of bracing cables, but, otherwise, the majority of biplanes were of the orthodox single-bay type, with front and rear lift and anti-lift wires.

In the matter of wing sections only a few monoplanes showed extremely great thickness, such as the Focke-Wulf and Junkers machines. A number of monoplanes were of medium-section cantilever type, but more often strut-braced, and in the biplanes one saw a few thin sections, no very thick sections, and, generally speaking, sections of medium thickness. A few of the wing sections were of the "Schoukowsky" or "tadpole" type, which has been so thoroughly tested out at Göttingen, but these were seen on a relatively small number of machines, and the tendency seems to be more towards the flat-bottomed section of medium depth, something after the style of our Airscrew 4 or T.64 sections.

"stunt" flying, while in the case of commercial low-wing monoplanes it was held that they would not in any case be "stunted" and that, therefore, this difficulty did not arise. While it is of course perfectly true that "stunting" is not one of the functions of a commercial aeroplane, there may easily be cases where a machine accidentally goes into a spin, such as when flying in fog or clouds, and in that case, of course, the same disability would be present, although a large machine would presumably spin at a less violent rate. Whether there really is anything in this contention or whether it is merely that control surfaces already on the small side are rendered less effective by the position of the main wing is difficult to say, and we merely raise the point here as one which is the cause of some concern in Germany at the present time.

On the subject of wing flaps, fairly normal proportions were, generally speaking, observed in the case of "normal" machines, but a not inconsiderable number made use of modern ideas on the subject of lateral control. This was particularly the case in the Heinkel machines, in which slotted ailerons of the Handley Page type were employed, apparently with excellent effect. It might be mentioned that on the Heinkels the flaps did not run the whole length of the wing, but formed about the average proportion of the span. In the new Junkers low-wing monoplane (the type T.29) ailerons of very unusual type were employed. It was denied that this



TWO OLD-TIMERS : On the left, the L.F.G., V.39, and on the right the Albatros L.30. Both machines are fitted with 100 h.p. Mercedes engines and both are of 1914 design.

On the vexed question of tails, one received the impression that the majority of German tails are still considerably on the small side. We are aware, that, generally speaking, the tails of British machines appear excessively large to foreign designers, but we think we shall not be accused of boasting if we claim that more work on the controllability near or above the stalling angle has been carried out in this country than anywhere else, and it seems to us that German theory has failed to take this side of the question into account. In normal flying the German tails seemed adequate enough, but one seriously doubts their effectiveness at very large angles. It must be admitted that during our stay in Berlin we had no opportunity of seeing any slow flying, as the practice of the majority of pilots seemed to be to land their machines well above the stall, but on more than one occasion we did see machines "chasing their tail" on the ground which seemed to indicate that the rudder control, at any rate, was scarcely all that it might be.

We gathered the impression that there is in Germany, apart from the distrust of the monoplane on structural grounds, a volume of opinion which considers that the low-wing monoplane is inclined to be dangerous on account of certain difficulties which have been found in getting machines of this type out of a spin. It was gathered that this was more particularly so with small machines that might be used for

represented an attempt to obtain "slot effect," and probably this is strictly true since the effect obtained would seem to be more in the nature of tandem aerofoil effect, such as that obtained when two wing sections are placed close together with but a small opening separating them. Experiments carried out at the N.P.L. indicate that although extra lift is obtainable in this manner the increase is not of such a high order as that obtainable by the use of "slotted-wings" of the Handley Page type. One of our photographs shows a Junkers aileron and its mounting, and it will be observed that when a flap is pulled down its leading edge approaches the trailing edge of the main aerofoil. It should also be noted that on the aileron fittings a series of holes are provided by means of which the size of opening with flap full down is altered so that an easy means is provided for ascertaining the best slot size.

On the small Mercedes-Daimler machines a combination of trailing edge flap and wing tip flap were linked together under the wing by cranks and pull-and-push rods in such a manner that the two flaps worked together, the trailing edge flap being directly operated from the controls while the wing tip flap was indirectly operated via the trailing edge flap. One of our photographs shows this aileron combination, which, apparently, has for its object the increase of the effectiveness of the trailing edge flap. As the Mercedes-

Daimler machines appeared very controllable, both the single-engined and twin-engined type, presumably the arrangement works well.

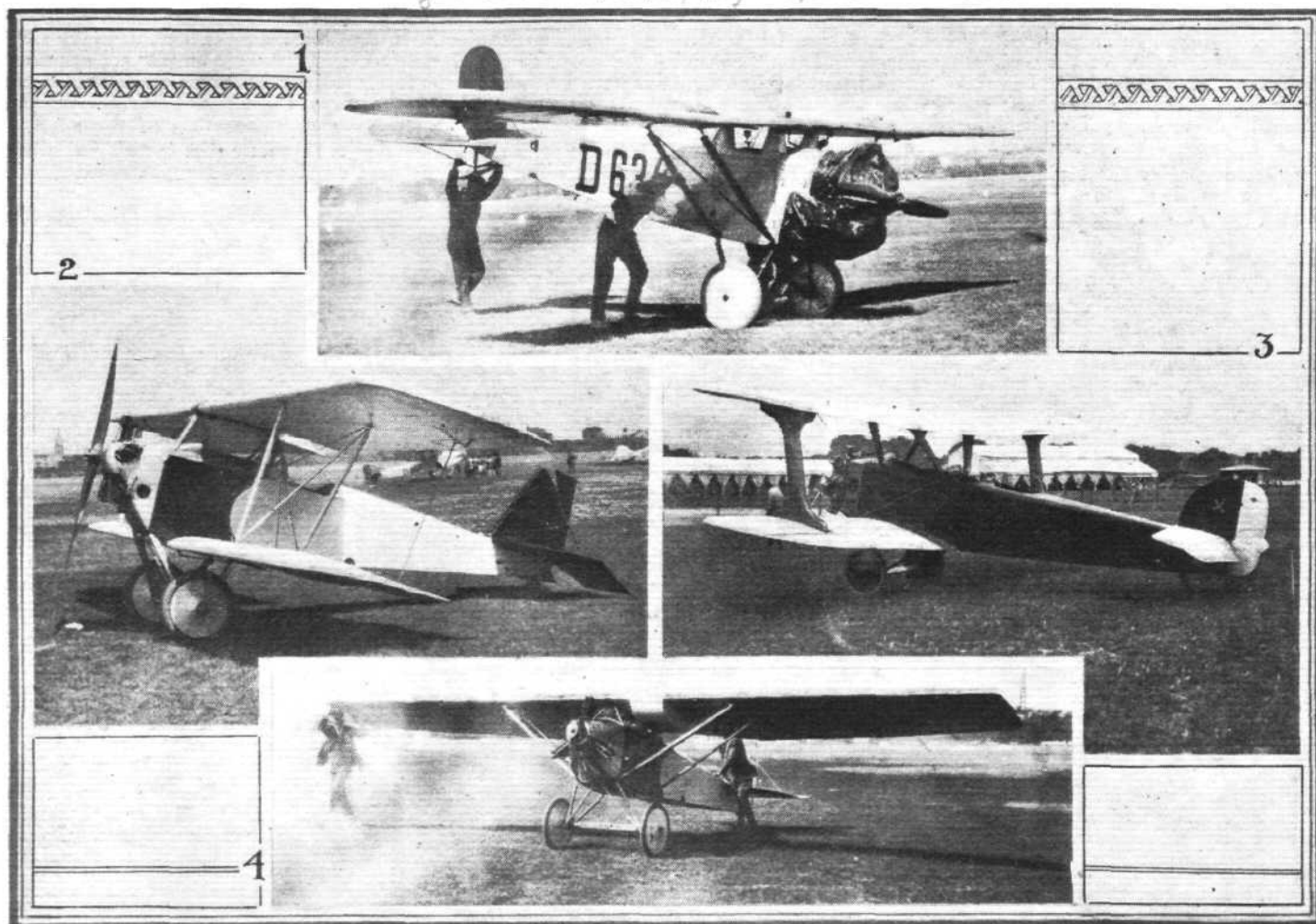
German Aircraft Construction

Reference has already been made to the fact that the great majority of the machines taking part in the Round-Germany flight were of well-known types, from which it was to be expected that from a constructional point of view there would not be a very great deal to be seen in Berlin. An examination of the machines at the Tempelhofer Aerodrome during the days preceding the start, confirmed this impression, and it may be said at once that this country does not appear to have much to learn from Germany as regards quality of workmanship. When one comes to the question of cost, it might be a somewhat different matter, although in this respect also, there is a good deal of similarity between

form of construction is interesting because it seems to point a way towards reducing the cost of building light 'planes. It seems probable that no cheaper form of construction has ever been evolved than the Fokker welded-steel tube method, and if it is, as the Dietrich machines appear to show, applicable to light 'planes, it might be worth while adopting it for the construction of light 'plane fuselages. One outstanding advantage which this form of construction possesses is its elasticity. With most types of metal construction early standardisation is almost essential, if reasonable cost is to be attained, but with the Fokker method this applies to a much smaller degree, and changes in design are almost ridiculously easily made.

As regards the wood construction, ply-wood has long been, and still appears to remain, the favourite material among German designers. In the Rundflug machines it is used for

German Rundflug 1925 20



SOME RUNDFLUG MACHINES: 1 is a Dietrich monoplane, with Siemens engine, while 2 is a Stahlwerk biplane. 3 is a three-quarter rear view of the Udet biplane "Flamingo," piloted by Herr Udet himself, and 4 is the Stahlwerk parasol monoplane.

British and German methods. Generally speaking, it can we think, be said that if the German machines do not show outstanding merit in their construction they certainly cannot be said to show scamped workmanship, and the general average is about what one would expect from a painstaking race like the Germans.

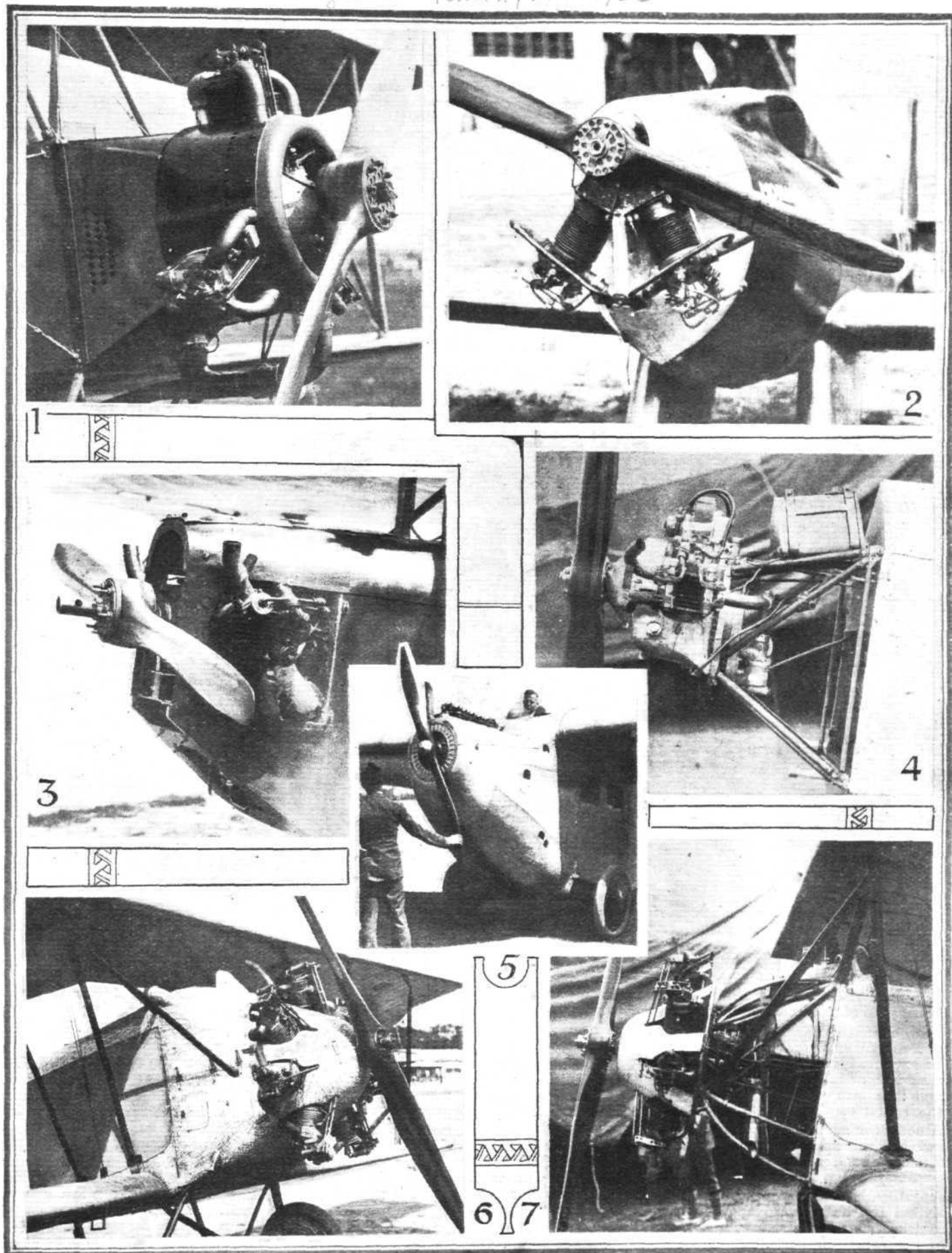
On the whole, it seems that wood construction still leads in popularity, but this was to be expected from the fact that all the competing machines were necessarily of fairly small type. In her commercial aircraft, Germany shows a decided preference for all-metal construction, particularly as exemplified by the Junkers and Dornier machines. In the actual competition the only all-metal machines to turn up were the Junkers, and these all followed standard Junkers' practice in their construction, with structural members mainly in the form of Duralumin tubes and with fuselage and wing covering of corrugated Duralumin sheet.

Another form of metal construction used fairly extensively, more particularly on the Dietrich machines, applies to the fuselage only, and is not used in the wing construction. This is in the form of welded steel tube members with piano wire bracing, of the type used so extensively by Fokker throughout and after the war. The Dietrich machines being small, this

the fuselage covering in a very great number of machines, and in not a small percentage it is used for the wing covering also. Although most of the machines built in this manner have flat-sided fuselages there were a number of machines in which the body was of circular or elliptical cross-section, and in cases where the plywood is used for covering fuselages of this type, the work of applying it evenly becomes, of course, considerably more difficult, since sheet material cannot be bent over a barrel-shape, although it is easily bent over a cylindrical former. In these cases, of course, the three-ply was applied in fairly small sheets, and was usually tacked on in preference to being screwed on. There is, in certain quarters, a tendency to regard wood screws as being preferable to nails for fastening ply-wood on a framework, but to the writer it has always seemed that there is a good deal to be said for using nails. A wood screw, if properly driven home and if not over-tightened, does doubtless hold better than a nail, but one can never be quite certain of whether or not a wood screw has been over-tightened. If it has, it is, of course, practically useless, while a nail driven in, provided it does not miss the material altogether, will hold pretty firmly.

Undercarriages appeared in the main to be of the standard

POWER PLANTS

German Rundflug 1925


SOME OF THE ENGINES IN THE ROUND-GERMANY COMPETITION. 1. The Bristol "Lucifer," in the Caspar C.26. 2. The Blackburne "Tomtit," in the Darmstadt "Mohamed." 3. The A.B.C. "Scorpion," in the Udet "Kolibri." 4. The Mercedes Daimler in the L.20. Note the steel tube mounting. No. 5 shows the nose of the Focke-Wulf fitted with the six-cylinder air-cooled Junkers engine. 6 and 7 show Siemens engines as mounted in Dietrich biplanes, No. 6 being of the latest type.

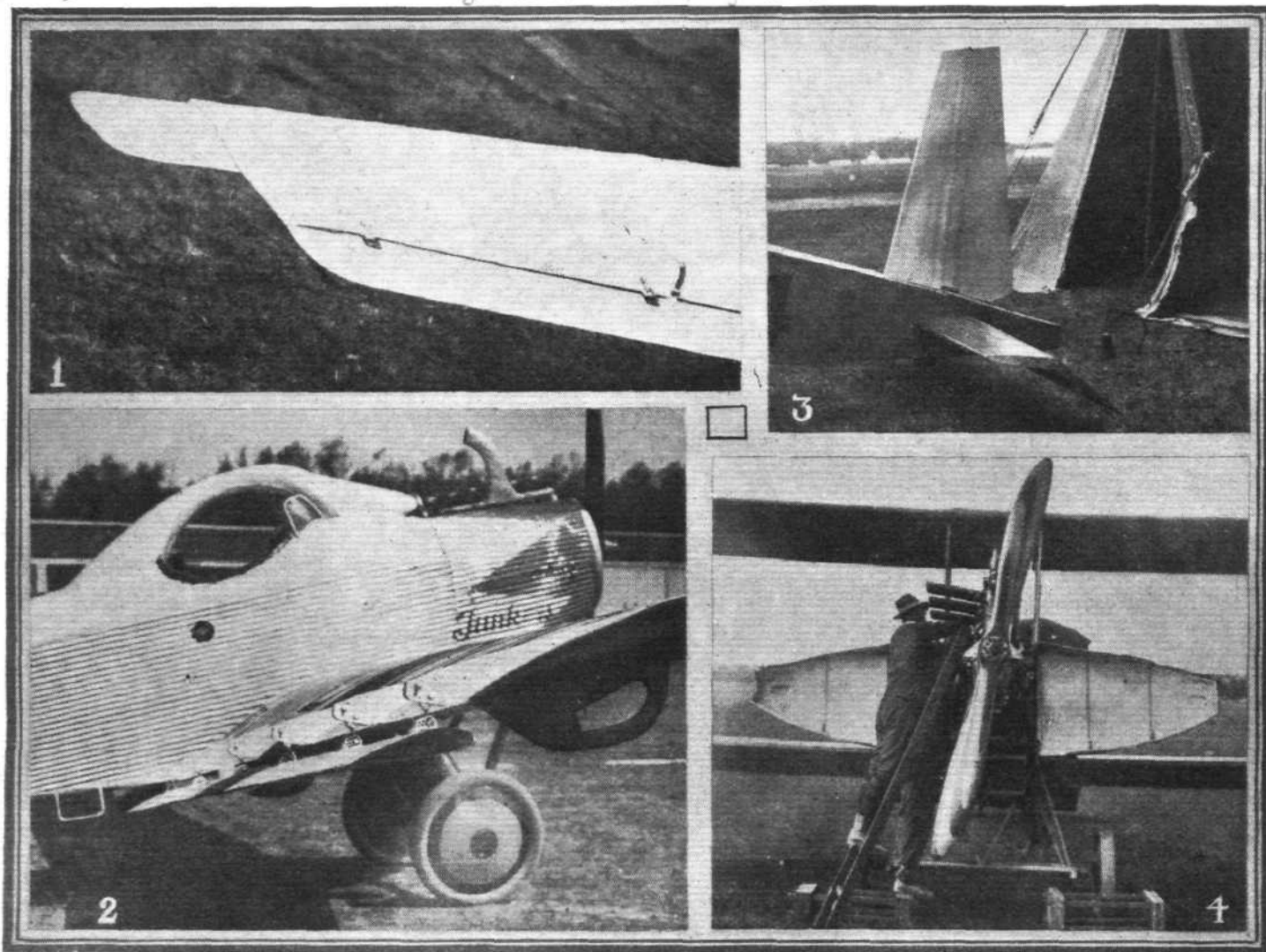
type, with long axle and "V-struts," but there seemed to be a tendency towards the divided type, in which each wheel is mounted on a short bent axle and the undercarriage is formed by two separate pyramids. In some cases the shock-absorbing legs of the undercarriage were taken to the wing, a practice which is open to the objection that in a hard landing a wing may be badly stressed without actually breaking, with consequent risk of the wing collapsing the next time the machine takes the air.

The Engines.

In view of the fact that the engine power in Classes A and B was limited to 40 h.p. and 80 h.p. respectively, and that in Class C (machines competing for the "Boelcke" prize), the maximum power permitted was 120 h.p. only, it was to

Among the Siemens engines were a number of the older types which have been in use in Germany for two or three years, but two new types recently developed at the Siemens works were represented in the Rundflug. These were the S.H.11, a seven-cylinder radial air-cooled of 80 h.p. and the S.H.12, with exactly similar cylinders, but nine cylinders instead of seven and developing 105 h.p. These new types have been developed by the Siemens-Halske chief designer, Herr Dipl. Ing. F. Gossau, in order to provide better cooling of the cylinder heads. One of our photographs shows the smaller of these two engines, in which the new shape of cylinder head is visible. The main innovation is in the arrangement of the valves and cooling fins on top of the cylinder. The combustion space

German Rundflug 1925



IN THE ROUND-GERMANY FLIGHT: 1. The combined trailing edge and wing-tip flap on the single-engined Mercedes-Daimler L.20. 2. The unusual aileron on one of the Junkers T.29's. This aileron depends upon the "tandem aerofoil" effect for its greater lift. Easy adjustments are provided for varying the size of slot. In 3 is shown the unusual fin and rudder of the Caspar C.26, while 4 shows the hinged engine cowl on the C.24, which gives unobstructed access to every part of the engine.

be expected that the majority of engines of these low powers would be of the air-cooled type. This proved to be the case and it is interesting to note that in the Rundflug machines the radial type of air-cooled was by far the most popular. Among the smaller types a few flat twins were to be found, notably the new Mercedes 19 h.p. and the English A.B.C. "Scorpion" and in the highest powered classes there were a few 100 h.p. Mercedes water-cooled engines. The vast majority, however, were of the radial type and the firm represented by the greatest number of engines was the Siemens-Halske, whose engines formed something like 60 per cent. of the total number. Of engines other than German there were a fair number of Bristol "Lucifers," a couple of Wrights, one or two Anzani's, and a few of the new Stahlwerk radials. The British engines were generally liked by their pilots, although it seems probable that in one or two instances engine troubles may have occurred which must be ascribed to the unfamiliarity of the pilot with his power plant, since few of the German pilots had previously had any experience, or, at any rate, very little, of British engines.

in the new engines is of somewhat approximately hemispherical shape, and we understand that with a compression ratio of 5.8 to 1 the seven-cylinder engine has run for 80 hours on the test bench without any adjustment being required and without it even being necessary to change a sparking plug.

The non-appearance of some of the machines entered prevented one from seeing certain new engines and, incidentally, kept a large number of British Blackburne and Douglas engines out of the competition. Almost in a class by itself was the Junkers L.1A, which, although air-cooled, is of the six-cylinder in-line type. The cylinders, and particularly the cylinder heads, are surrounded in this engine by casings through which air is forced by a fan mounted on the forward end of the crankshaft. When the engine is built into the machine it is thus difficult to detect the fact that it is an air-cooled, as the fin casing looks not unlike a radiator, and on casual inspection the engine might easily be mistaken for a water-cooled. This engine was first exhibited at the Gothenburg Aero Show in 1923, and has not, we believe,

become extensively used yet. The Rundflug should, however, provide an excellent opportunity for testing the merits of the engine, which, if it is proved to be reliable, certainly appears to have an advantage in that it can be built into the machine in such a way as to offer very little resistance. The Junkers, by the way, has a bore of 100 mm. and a stroke of 120 mm., giving a cubic capacity of 5,670 c.c., and runs normally at a speed of 1,650 r.p.m. The weight is 304 lb.

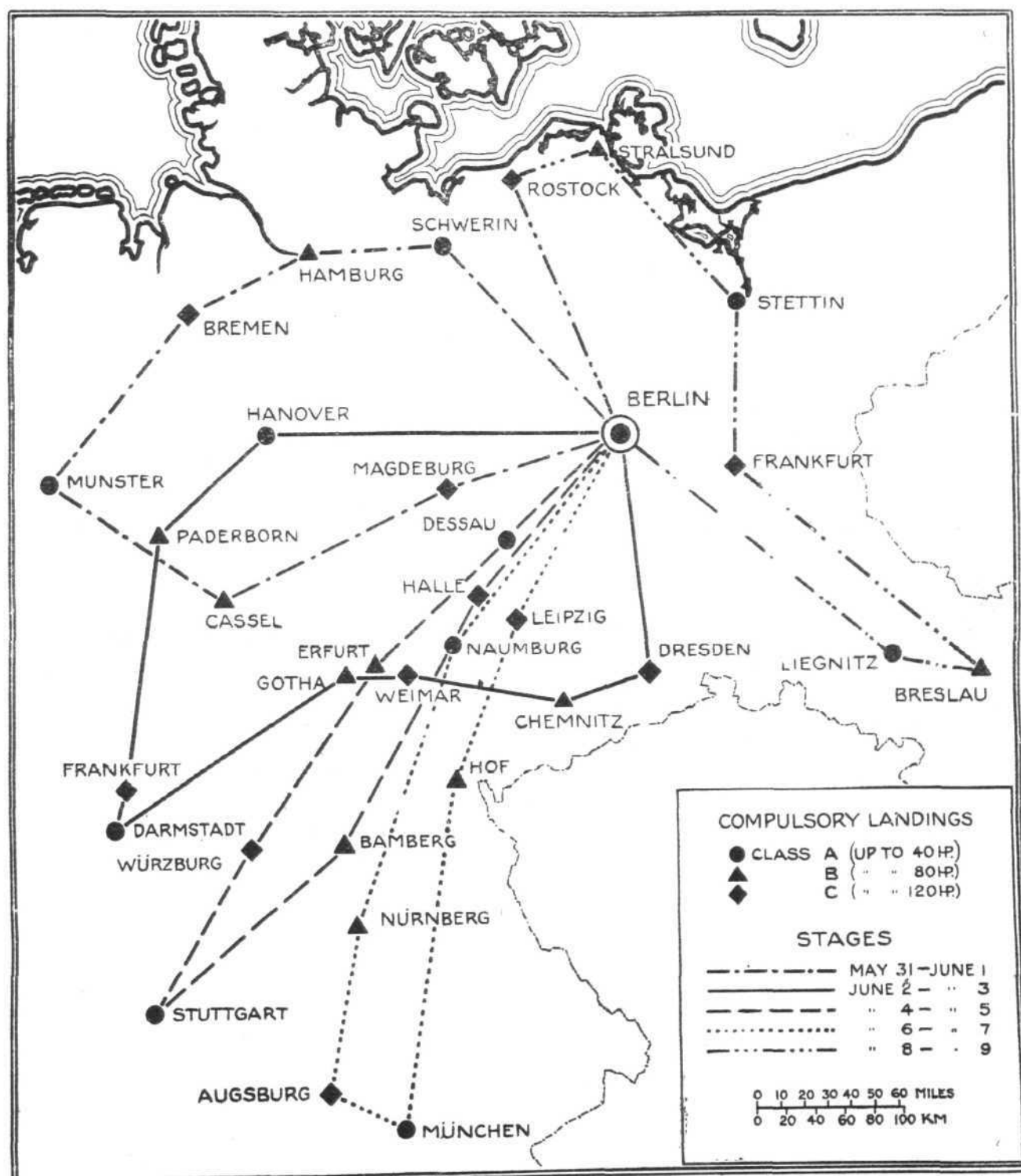
The petrol system adopted in practically all the German machines was found to be of the simple direct-gravity feed type, so that breakdowns due to faulty petrol supply have been comparatively few. The extensive use of radial engines has led to the adoption of fairly simple engine mounts, although there is still apparently no uniformity in this respect, and the tubular type of mounting seems to be still preferred, although

certain examples were to be seen of the plain steel-plate type of mount. Not a few of the competing machines were provided with swivelling engine mounts of somewhat similar type to that patented in this country by Boulton and Paul some years ago, and since then also extensively used by the Bristol Aeroplane Company. In conclusion, it might be mentioned that the average weight per horse-power in the German engines is in the neighbourhood of $3\frac{1}{2}$ lb., so that, though they are lighter than the old German engines, they still seem to be considerably heavier than the best modern British engines. In this connection it should, however, be remembered that all these German engines are of comparatively low power, and that therefore it is, perhaps, unfair to compare them for specific weight with high-powered British engines.

PROGRESS IN ROUND-GERMANY COMPETITION

THE start of the Round-Germany Competition was dealt with at some detail in last week's issue of FLIGHT, but for the sake of completeness a few more details which have since become available are given herewith. Some 50 machines

started in the first circuit which was one of 970 km. (600 miles). The Udet "Kolibri" with A.B.C. "Scorpion" engine had two forced landings shortly after the start, the first at Gross-Lichterfelde and the second one at Saatkorn. In the

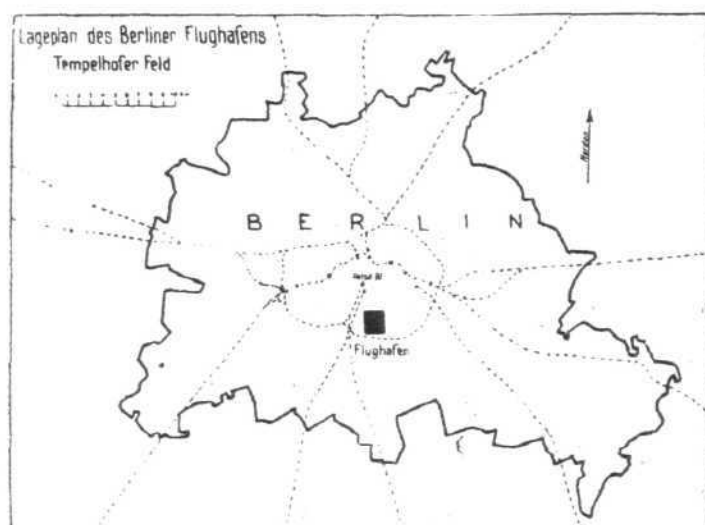


THE ROUND-GERMANY FLIGHT: Sketch map showing the five circuits in the competition. Machines started from and finished at the Tempelhofer aerodrome in Berlin in each circuit, and the direction flown was anti-clockwise

last forced landing the machine was slightly damaged, and had to be brought back to the Tempelhofer Aerodrome by road. By the evening of Sunday, May 31, no machines of Class A had returned, while nine Class B machines had completed the circuit, and six of Class C. The fastest time in the 40-80 h.p. class was made by Billik on the U.10 in 9 hrs. 14 mins. The best time of the day was made by Ungewitter on an Albatros L.69 with 100 h.p. Siemens engine, covering 600 miles in 9 hrs. 4 mins. The first machine to return on Monday, June 1, was the little twin-engined Daimler L.21, piloted by Lörzer. The little Darmstadt "Mohamed" with Blackburne engine also covered the complete circuit.

Second Circuit (June 2-3)

The second circuit in the Rundflug was the longest in the competition, measuring no less than 1,130 km. (705 miles). Forty machines started on this circuit, and two crossed over to it from the first circuit, which they had abandoned on the way. The following machines (engines shown in parenthesis) completed the second circuit in the times given: Albatros L.69 (Siemens 100 h.p.), 10 hrs. 14 mins.; Udet U.10 (Siemens 80 h.p.), 10 hrs. 56 mins.; Udet U.8 (Bristol "Lucifer" 100 h.p.), 10 hrs. 10 mins.; Albatros (Siemens



This outline diagram shows the location of the Tempelhofer Aerodrome, Berlin, and gives an excellent idea of the central position. The aerodrome is indicated by the black square and the dotted lines represent railways. (Reproduced from "Illustrierte Flug-Woche")

75 h.p.), 10 hrs. 18 mins.; Heinkel (Mercedes 100 h.p.), 10 hrs. 12 mins.; Junkers T.29 (Junkers 78 h.p.), 12 hrs. 24 mins.; Heinkel (Bristol "Lucifer"), 12 hrs. 11 mins.; Junkers K.16 (Siemens 80 h.p.), 11 hrs. 45 mins.; Dietrich mono. (Siemens 60 h.p.), 12 hrs. 27 mins.; Udet "Flamingo" (Siemens 100 h.p.), 12 hrs. 32 mins.; Albatros L.68 (Siemens 75 h.p.), 14 hrs.; Heinkel 21 (Mercedes 120 h.p.), 14 hrs. 12 mins.; Dietrich biplane (Siemens 75 h.p.), 13 hrs. 56 mins.; Greif (Thulin 80 h.p.), 13 hrs. 41 mins.; Dietrich biplane (Siemens 80 h.p.), 13 hrs. 52 mins.; Junkers K.16 (Siemens 80 h.p.), 15 hrs. 56 mins.; Daimler L.21 (two Mercedes 19 h.p.), 16 hrs. 26 mins.; Heinkel 21 (Daimler 100 h.p.), 13 hrs. 30 mins.; Junkers T.29 (Junkers 85 h.p.), 32 hrs. 55 mins.; Udet "Flamingo" (Siemens 80 h.p.), 32 hrs. 55 mins.; Bäumer monoplane (Wright 60 h.p.), 39 hrs. 16 mins.; Caspar C.T.2.b (Mercedes 100 h.p.), 38 hrs. 31 mins.

Third Circuit (June 4-5)

Thirty-two machines started on the morning of June 4 on the third circuit of the German Rundflug, which had a length of 1,058 km. (660 miles), and about six more competitors crossed over *en route* from their incomplete second circuit. As distinct from the four previous days, the weather was somewhat unfavourable on June 4, with local fog in

places. This resulted in causing delay, not so much at the start, as the weather at Berlin was fairly good, but in the districts around Erfurt and Würzburg. Considerable dissatisfaction was expressed at the action of the German Air Police, who actually prohibited a considerable number of competitors from starting in the mist, although wireless weather reports had stated that conditions were not so bad elsewhere. The first to arrive home after having completed this circuit was Polte on the Udet U.8 with Bristol "Lucifer" engine, who arrived at 4.09 p.m., having completed the circuit in 10 hrs. 51 mins. He was followed later by Basser on a Heinkel H.D.21, and the following machines came in later at varying intervals: the Albatros L.68, Udet U.10, Heinkel H.D.32 (Bristol "Lucifer"), Junkers T.29, and Heinkel H.D.21.

During this circuit two regrettable accidents occurred. One was to the Albatros L.69 piloted by Ungewitter, which was completely smashed, although the pilot escaped with a broken leg. It appears that owing to the misty atmosphere Ungewitter was flying very low, and when his engine failed he had no opportunity of gliding to a suitable field, but came down in a garden. The trees broke his fall somewhat, but, nevertheless, the machine was badly damaged, and Ungewitter was taken to hospital in Bamberg. His passenger was uninjured. Spiesz, on a Caspar C.24, had to make a forced landing near Würzburg, and damaged his machine badly, although he and his passenger were not injured.

Fourth Circuit (June 6-7)

Excellent weather prevailed during the completion of the fourth circuit, a distance of 1,070 km. (670 miles). By 10 a.m. the following machines had started: Daimler L.20, Daimler L.21, Udet U.10, Albatros L.68, Bäumer monoplane, Dietrich monoplane, Heinkel H.D.32, Dietrich monoplane, Bäumer biplane, Albatros L.68, Junkers T.29, Dietrich biplane, Dietrich D.P.2a, Heinkel biplane, Udet "Flamingo," Heinkel H.D.21, Heinkel H.D.21, Junkers T.26, Heinkel biplane, Dietrich biplane, Udet U.8 (Bristol "Lucifer"), Heinkel H.D.32, Albatros L.68, Caspar "Köbes," Junkers T.29, Heinkel H.D.21, Junkers K.16, Udet "Flamingo," Junkers T.26, Riesler (40 h.p. Anzani), Caspar C.T.1. Something like 35 machines started in this circuit, of which the great majority succeeded in completing the distance of 670 miles, while a not inconsiderable number of those that had been unable to complete the third circuit commenced the fourth at various points along the route. So far the most consistent performances had been put up by Polte on the Udet U.8 with 100 h.p. Bristol "Lucifer" engine, and by Bäumer on the Bäumer monoplane with 60 h.p. Wright engine. The Bäumer monoplane particularly has proved very fast for its low-engined power, a point which, although not counting directly in the competition, is taken into consideration where two machines of the same power have completed the same distance. Herr Bäumer was again first home on Saturday, June 6. Having left the Berlin aerodrome at 4.30 he returned to his starting point at 12.42, having completed the 670 miles in 8 hrs. 12 mins., which time included two compulsory landings and one forced landing *en route*. Polte's flying time was 10 hrs. 17 mins., and Basser on a Heinkel H.D.21 with 100 h.p. Mercedes, was third with a time of 10 hrs. 44 mins.

Fifth and Last Circuit (June 8-9)

The last stage of the Round-Germany competition had been regarded as a fairly easy one in view of the fact that most of the country over which this circuit lies is of a comparatively flat nature and that, consequently, it should be possible, with safety, to make forced landings almost everywhere. The distance is one of 1,034 km. (645 miles). Thirty-eight competitors started from Berlin on this stage. Bäumer was again the first man home, returning shortly after one o'clock, after having completed the circuit in 8 hrs. 8 mins. As before, Polte was second in the Udet U.8 with Bristol "Lucifer," his time being 8 hrs. 48 mins., and Basser was third in his Heinkel H.D.21 with 100 h.p. Mercedes. By tea-time 11 of the 38 machines had returned to the Tempelhofer Aerodrome, and 24 more by next evening.

French Aeroplane Rally

ON May 31 a national aeroplane rally, organised by the Aero Club of Auvergne, took place at Aulnat aerodrome, the principal event being a competition between aeroplanes flying from various centres to Aulnat. Forty machines, from 15 h.p. to 280 h.p., set out from different towns, and of these 31 landed at Aulnat within the six hours' time limit allowed. Among the competitors was Capt. Pelletier d'Oisy, on a Morane Saulnier (120 Salmson), Fronval, on a similar

machine, and Coste, on a Spad Berline (120 Salmson). Fronval, who flew with two passengers 548 miles, was the winner; Coste second, with five passengers and 555 miles (from Orly), and d'Oisy third, with two passengers and 510 miles (from Villacoublay).

Proposed Aerodrome for Colchester

THE Air Ministry has placed before the Colchester Town Council a proposal for the establishment of a large aerodrome, involving an expenditure of about £500,000, at Colchester.

THE ITALIAN FLIGHT TO AUSTRALIA

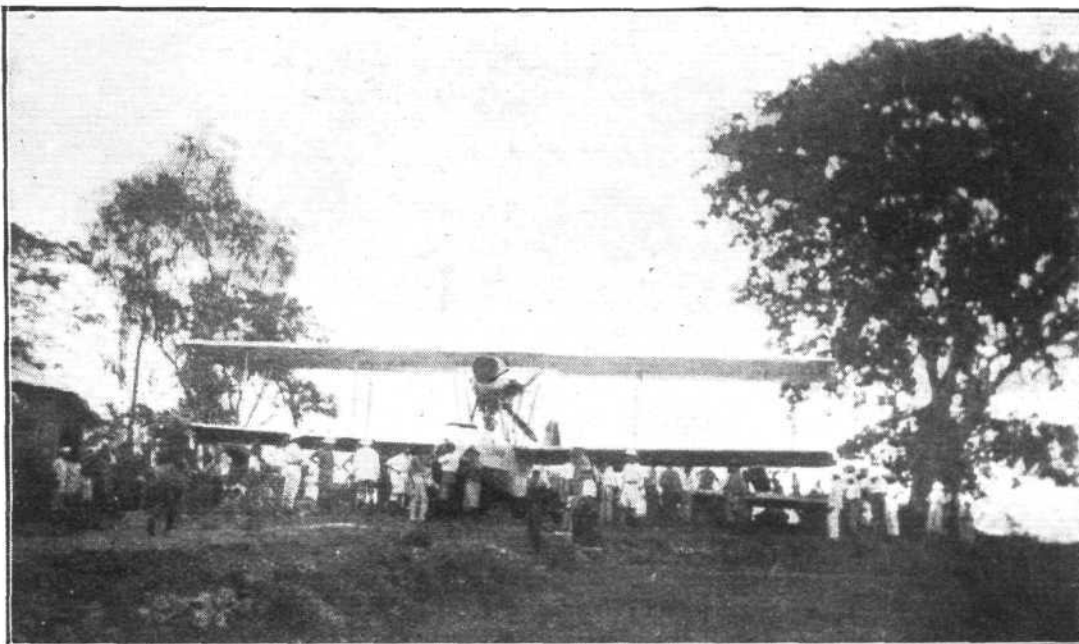
CONTINUING his flight from Carnarvon, W. Australia, on June 3, Col. M. di Pinedo flew another 530 miles in his Savoia S.16 ter flying boat to Perth, where he received a great reception. The following day he flew along the coast to Bunbury, but shortly after slight engine trouble developed and he returned to the latter place. Proceeding the next day, June 5, he reached Albany, but water in the magneto prevented further progress that day. He was, however, able to continue next day and arrived at Israelite Bay. His next

open sea so long as it enables him to steer the straightest possible course; he trusts his Lorraine engine implicitly.

"On his arrival the Commander was greeted by the Italian Consul, the Brigade Commander, Commissioner of Police, Mr. R. C. Kemp of the Air Survey Co., Ltd., and others.

"The previous night the crew had had a very stiff time in Akyab, where the weather was exceedingly rough, so that they were glad to leave their seaplane in the hands of the Air Survey Co., Ltd., to be housed in the company's hangar,

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❖ **The Italian Rome-**
❖ **Australia Flight:**
❖ **Col. M. di**
❖ **Pinedo's Savoia**
❖ **S.16 ter flying**
❖ **boat (400 h.p.**
❖ **Lorraine-Diet-**
❖ **rich) at the Air**
❖ **Survey Co.'s slip-**
❖ **way at Rangoon**
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trip, on June 8, was across the Australian Bight to Adelaide, where he was given an enthusiastic welcome and an official and civic reception.

On June 10, flight was continued and the 560 miles to St Kilda, Melbourne, completed in 6 hrs. 35 mins., during which a strong headwind and heavy rainstorms were encountered. Col. Pinedo and his mechanic were given a rousing welcome by some 25,000 spectators, and today he will be received by the Governor-General.

We have received from "a reader of FLIGHT" the following interesting note, together with the accompanying photograph, referring to Col. Pinedo's arrival at Rangoon:—

"Commander De Pinedo and his mechanic arrived at the Air Survey Co.'s seaplane base at Monkey Point, Rangoon, on the morning of May 14, after his very sporting flight from Bombay across the heart of India to Coconada up the coast to Calcutta, and thence by Akyab to Rangoon, on his little Savoia seaplane flying boat. He evidently does not fear forced landings, for he takes his boat across by land and

where the hull was scraped and repainted below the waterline and a few minor repairs and adjustments were carried out.

"The Air Survey Co.'s staff took a great interest in many interesting gadgets on the machine, such as a telescopic mast and bowsprit and an extra rudder with which, with the assistance of a foresail, it is possible to sail the machine even close hauled, should the engine break down. There is also a very neat still with which sea water can be distilled for drinking, at the rate of one egg-cup per five minutes. The fuel for this is, of course, petrol, which would be taken from the main tank.

"Commander De Pinedo spent four days in Rangoon, and we were all sorry to say goodbye to a very charming gentleman. He declared himself surprised to find a small but flourishing seaplane base at Rangoon. This is the property of the Air Survey Co., Ltd., who are carrying out a very considerable amount of useful air photographic survey and forest reconnaissance for the Government of Burma. For this purpose they run three seaplanes, constructed from D.H.9 aeroplanes, which have given exceedingly good service.

A NEW "DAILY MAIL" £5,000 AVIATION PRIZE

A Contest for Light 'Planes Next Year

THE *Daily Mail* has announced the offer of a new aviation prize of £5,000 to encourage the production, for popular use, of moderate-priced, low-powered light aeroplanes of improved types. This competition will be open to any two-seater dual-control aeroplane of British construction, the weight of the engine of which—also British—does not exceed 170 lb.

In order to give engine constructors and aeroplane manufacturers an opportunity of completing designs on which they are now engaged, the competition will not take place until some date during the summer of 1926.

This competition will consist of flights over a course of approximately 2,000 miles, divided into at least 20 stages, radiating from an aerodrome in the vicinity of London, which will have to be completed at an average speed of not less than 50 m.p.h.

The £5,000 will be divided into three prizes: 1st, £3,000; 2nd, £1,500; 3rd, £500, and the awards will be made for the aeroplanes carrying the greatest useful load per unit of fuel consumed. Eliminating trials for the machines entered will

be held before the contest in order to demonstrate their performance as regards landing and taking off.

It is stated that the main basis of the scheme is to encourage reliability and fuel economy. For instance, should two competing machines both comply with the conditions as regards average speed, and both complete the 2,000-mile course with equal success, the machine having the lowest fuel consumption, taking into consideration the load carried, will be judged the winner. The maximum load permitted for each machine will vary according to the power employed, and this load will be stipulated officially in the Airworthiness Certificate issued by the Air Ministry in each case. In any case, each machine will have to carry a minimum load of 340 lb. (representing weight of pilot and passenger).

Further details of the competition are now being drafted on behalf of the *Daily Mail* by the Royal Aero Club, in consultation with the Air Ministry.

Messages of congratulation have been sent to the *Daily Mail* by Sir Samuel Hoare, Sir William Letts, and the Air Navigation and Engineering Co.

THE GORDON BENNETT BALLOON RACE

Out of an entry of 19 balloons, 18 started from Brussels on Sunday, June 7, in the Second Gordon Bennett Balloon Race for the Cup presented by the Belgian Aero Club as follows:—

Great Britain.—"Banshee III." (Lieutenant-Colonel John Dunville and Squadron-Leader F. A. Baldwin); "Elsie" (Captain J. F. Johnson and Captain Dougal); "Miramar" (Captain C. W. Spencer and Captain C. E. Berry).

Belgium.—"Belgica" (Lieutenant de Muyter); "Ville de Bruxelles" (Captain Labrousse); "Prince Léopold" (M. Veenstra).

France.—"Picardie" (M. Bienaimé); "Maroc" (M. G. Blanchet) and "Grand Charles" (M. Latu René).

Italy.—"Aerostier III." (Cavaliere Grassi); "Triangale" (Commandante Valle); "Ciampino V." (Commandante Hari).

Spain.—"Fernando Duro" (Señor E. Magdalena); "Hesperio" (Señor de la Rocha); "Capitan Peneranda" (Señor E. Sussana).

Switzerland.—"Helvetia" (Dr. C. Bachman).

United States.—"Goodyear III." (Mr. W. T. Van Orman and Mr. C. R. Wollan); "S. 14" (Mr. W. J. Flood and Mr. MacCormick). Mr. H. E. Honeywill's balloon did not start.

Up to the time of writing the following landings have been reported:—The "Elsie" landed on the railway line near Etaples, and was "run down" by a train, Captains Johnson and Dougal escaping unhurt; "Ciampino V." at Cap Lévi (Manche); "S. 14" at Tréport; "Miramar" near Beaumont, Hainaut; "Banshee III." Cap de la Hague; "Maroc" at Crotoy; "Capitan Peneranda," at Hazelbrouck; "Duro," at Cayeux-sur-Mer; "Hesperio" fell in the sea (?) and occupants rescued by a steamer; "Helvetia," at Couthinville; "Ville de Bruxelles," at Hauteville-sur-Mer; "Aerostier," at Romille (Brittany).

Actual results and distances covered must be deferred till next week's issue.

Morocco Bound

M. PAINLÉVÉ, the French Prime Minister, left Paris on Tuesday for Morocco, where he is to discuss with Marshal Lyantey the Franco-Spanish campaign against Abdel Krim—in which aircraft have been playing an important part. M. Painlévé, and also M. Laurent Eynac, Under-Secretary for Air, made the journey from Toulouse by air.

Incidentally, the same day Alan Cobham left London in a special Rolls-Royce-De Havilland, and it was stated that his destination was also Morocco and that his mission was of a secret nature. It was further reported that he would pick up a passenger at Rabat.

South African Air Mail Discontinued

It is reported that the Union Government of South Africa has decided to discontinue the Cape Town-Durban air mail service. This comes somewhat as a surprise, as it was generally believed that the service had proved a success in every way.

Italian Airships' Long Flight

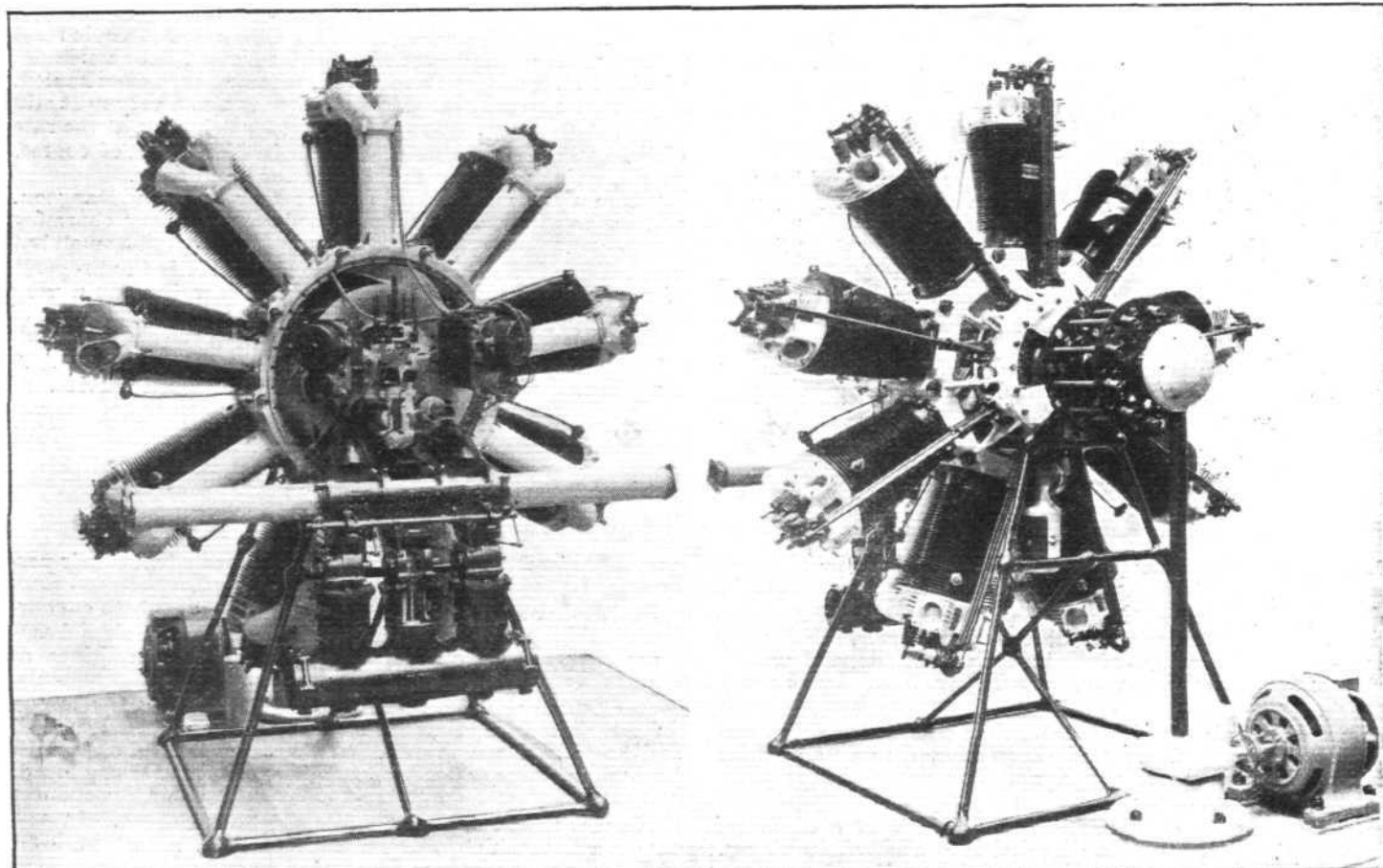
Two Italian airships, the "Esperia" and the "N.I." have just successfully completed a 1,500-mile tour from Rome to Spain and Southern France, visiting Barcelona and Toulon, in a period lasting a little over 25 hours.

Sir Charles Wakefield and the N.S.C.

SIR CHARLES WAKEFIELD, Bart., Governing Director of C. C. Wakefield & Co., Limited, the manufacturers of "Castrol" motor oils and greases, has been appointed Vice-President of the National Society of Chauffeurs.

The Royal Air Force Memorial Fund

THE usual fortnightly meeting of the Grants Subcommittee was held at the offices of the Royal Air Force Memorial Fund, May 28. Mr. Walter S. Field was in the chair, and the other members present were:—Mrs. L. M. K. Pratt-Barlow, O.B.E., and Squadron-Leader E. B. Beaman. Fourteen cases were dealt with, and grants to the amount of £97 were ordered for distribution.



THE BRISTOL "JUPITER" AT WEMBLEY: Two views of the 400 h.p. Bristol "Jupiter" engine which, sectioned so as to show the principal internal features and "working" through the agency of the electric motor shown on the extreme right, is exhibited in the Engineering Section of the Housing and Transport Building at Wembley

THE ROYAL AIR FORCE

London Gazette, June 5, 1925

General Duties Branch

Flying Officer F. E. Vernon is granted a permanent comm. in rank stated (June 3); J. A. Moore is granted a short-service comm. as a Flying Officer, with effect from, and with seny. of, May 25. The following Pilot Officers are confirmed in rank (May 7):—C. G. Crowden; W. E. Nicholls; C. H. Noble. Flying Officer J. P. Cafferkey is placed on half-pay, Scale B (June 1); Flight-Lieut. C. S. Morice, M.C., is placed on the retired list at his own request, and is granted rank of Sqdn. Leader (June 3); Flying Officer F. C. Baker relinquishes his short-service comm. on account of ill-health, and is permitted to retain his rank (Aug. 1, 1924). (Substituted for *Gazette*, Aug. 5, 1924.)

Stores Branch.

The following are granted short-service commns. as Pilot Officers on probation, with effect from and with seny. of May 25:—A. Amy, C. E. Burke.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch.

Flight Lieutenants.—C. H. Goring, D.S.O., M.C., to R.A.F. Depot on transfer to Home Estab.; 10.4.25. P. W. S. Bulman, M.C., A.F.C., to No. 111 Sqdn., Duxford; 2.6.25.

Flying Officers.—A. B. Cree, to R. A. F. Reception Depot, West Drayton; 4.6.25. R. G. Chapell and J. A. Moore, to No. 24 Sqdn., Kenley; 5.6.25. W. R. Heywood, to R. A. F. Depot, on transfer to Home Estab.; 21.5.25. B. R. C. Coope, to Aircraft Depot, India; 9.5.25.

Stores Branch.

Flying Officer: J. Mahoney, to R. A. F. Depot on transfer to Home Estab.; 13.5.25.

Medical Branch

R. F. G. Dickson is granted a short-service comm. as Flying Officer for three years on active list, with effect from and with seny. of May 12:—Flight-Lieut. J. A. Quin, M.D., B.A., is transferred to Reserve, Class D2 (May 31).

Reserve of Air Force Officers

E. J. Dilnutt is granted a commission as Pilot Officer on probation in General Duties Branch, Class B (June 2). The following are confirmed in rank:—Flying Officers F. E. Bridges (May 6); F. Horsley, M. V. Molony, H. L. Taylor, J. M. Walker, C. N. Wylam (June 2). Pilot Officer W. Wilson (June 2).

The commission of Pilot Officer on probation F. Middleton is terminated (May 16).

Memorandum

The permission granted to Sec. Lieut. J. L. Beattie to retain rank is withdrawn on his enlistment in the Territorial Army (April 16).

Medical Branch.

Squadron Leaders: A. E. Panter, B.A., to R.A.F. Depot; 25.6.25. R. S. Overton, to R.A.F. Hospital, Cranwell; 9.6.25. A. J. O. Wigmore, M.B., to No. 6 Group H.Q., Kenley; 23.6.25. R. J. Aherne, M.C., to Central Medical Board, Hampstead; 15.6.25. P. H. Young, M.B., to H.Q., Halton; 14.6.25.

Flight Lieutenant: W. G. L. Wambeck, to No. 3 Group H.Q., Spittlegate; 18.6.25.

Flying Officers: H. W. D. Mackenzie, M.B., to No. 5 Flying Training Sch. Sealand; 5.5.25. G. J. Haully, M.B., to No. 7 Sqdn., Bircham Newton; 28.5.25. R. F. G. Dickson, to R.A.F. Depot; 5.6.25. P. D. Barling, M.B., to Research Lab. and Med. Officers' Sch. of Instruction, Hampstead, on appointment to a Short Service Commn. for short course; 25.5.25.

IN PARLIAMENT

Iraq

CAPTAIN WEDGWOOD BENN, on May 27, asked the Secretary of State for the Colonies whether he can give any particulars as to the recent fighting in Iraq?

Sir S. Hoare: As already reported in the Press, a regiment of Levy Cavalry was attacked by Kurdish bands in the neighbourhood of Sulimaniyeh on May 20 and 21. After some sharp fighting, in which aircraft of No. 1 Squadron, Royal Air Force, co-operated, the attack was repulsed. There were no British casualties, but I regret to state that the Iraq forces lost 10 killed and 18 wounded. The marauding bands suffered materially heavier casualties.

Air Survey, East Africa

CAPTAIN BENN, on May 28, asked the Secretary of State for Air whether any project is being considered for an ordnance survey of East African territories from the air?

The Under-Secretary of State for Air (Major Sir Philip Sassoon): Not at present. Correspondence is in progress with the Colonial Office regarding the possibility of air survey in another part of the Empire, and any conclusions which may be reached will be to a great extent of general application, but it is clear that every such proposal must be separately considered according to its special circumstances.

Captain Benn: Is the Air Ministry satisfied of the utility of their survey as a substitute for the land ordnance survey?

Sir P. Sassoon: Yes, sir, they are very satisfied.

Airship Development

MAJOR-GENERAL SIR FREDERICK SYKES asked the Prime Minister whether the relations between the Admiralty and the Air Ministry in regard to airship development have been considered by the Committee of Imperial Defence; and, if so, whether he is in a position to announce the Government's decision in the matter?

The Prime Minister: The answer to the first part of the question is in the affirmative. No alteration in the existing arrangements is at present contemplated.

Long-Range Aerial Bombardment

SIR F. SYKES asked the Prime Minister whether suggestions recently published for international agreement in regard to the limitation of long-range aerial bombardment have received the consideration of the Committee of Imperial Defence; and whether, as a result, it has been possible to frame proposals for restrictions suitable for international discussion?

The Prime Minister: The answer to the first part of the question is in the affirmative. Owing to the difficulties inherent in the subject, His Majesty's Government have decided to await further international discussion on the question before formulating their considered views.

R.A.F. Reserves

LIEUT.-COMMANDER KENWORTHY asked the Secretary of State for Air what progress has been made in the formation of Royal Air Force Reserves during the present year; and how many flying officers are at present available and ready for immediate service in the Reserves?

French Air Mail to Africa

WHAT is claimed to be the longest air mail service was opened on June 1. This is the French service between Toulouse and Dakar, a distance of 2,700 miles (the New York-San Francisco line is 2,680 miles). Stops are made at Alicante, Malaga, Rabat, Mogador and Villa Cisneros, and the time for the whole distance is 2½ days, as against 10 days by steamer. This service serves the South of Spain, Morocco, Spanish Gold Coast, and West Africa.

Kennedy v. The Air Council Action

ON May 29, in the Chancery Division, High Court of Justice, Mr. Justice P. O. Lawrence dismissed an action by

Sir P. Sassoon: As regards the first part of the question, the present strength of officers in the Royal Air Force Reserve of Officers represents a material increase upon the strength as at January 1 last, and I hope that the rate of progress will still further be improved when the field of recruitment has been widened as contemplated in my reply to the hon. and gallant member for Hallam on February 20, 1925. The answer to the second part of the question is that the number of officer pilots at present in the Reserve is 611, of whom 522 are in regular flying practice, and immediately available.

Odiham Aerodrome

LORD HENRY CAVENDISH-BENTINCK asked the Secretary of State for Air if he is aware that 500 acres of the best arable land in Hampshire, at present under the plough, have been taken over by the Air Ministry for the purpose of building an aerodrome at Odiham; why arable land has been diverted; and why the aerodrome at Stockbridge, about 20 miles from the present site, was recently dismantled if it is considered necessary to have an aerodrome in that part of Hampshire?

Sir P. Sassoon: The aerodrome to be established near Odiham is one for a squadron allotted for training and co-operation with Army units in the Aldershot Command, and it is essential that it should be as close to Aldershot as possible, and, in any case, within a distance of 10 miles. An exhaustive survey of the whole district, covering 600 square miles, has been carried out by an expert board of officers, and it has been found that the only suitable site is that at Odiham. The former aerodrome at Chattis Hill, near Stockbridge, is about 38 miles from Aldershot, and is therefore well outside the permissible radius.

Lord H. Cavendish-Bentinck: Why was the aerodrome at Stockbridge dismantled, and how far is this change in borrowing large sums of money consistent with the Government pledges of public economy?

Sir P. Sassoon: My noble friend will realise that it is essential for the aerodrome to be close enough to Aldershot to enable the squadrons to be in close touch with the units of the Army with which they have to work.

Lieut.-Commander Kenworthy: Is the hon. Baronet aware that the Minister of Air assured me on the Air Estimates that the question of not erecting new aerodromes in the South of England was receiving attention on strategic grounds? Does he not see that they would be absolutely useless in war time?

Mr. Speaker: That is a matter of opinion.

New Airship

SIR F. SYKES asked the Secretary of State for Air whether the airship to be constructed at the Government factory at Cardington is being designed and will be employed solely for experimental use in the development of airship flight, or, if not, what commercial, Naval, Army or Air Force requirements are being provided for in the design of the airship?

Sir P. Sassoon: The airship is being so designed that she will be readily adaptable for service or for commercial use. At present, however, the prime object is to construct an airship with good aero-dynamic efficiency and with a large margin of disposable lift, and the design is not at present sufficiently advanced to allow of the consideration of specific commercial, Naval, Military or Air Force requirements.

Mr. Chessborough Kennedy claiming damages from the Air Council for an alleged breach of a contract entered into by the War Office in 1915 to take an aeroplane designed by him, On the ground that there was in the contract, as reconstituted in 1916, no implied condition of secrecy, and that, in any event, there had been no communication to Mr. Handley Page of the drawings of any of the Kennedy aeroplanes, and, moreover, the action would not lie against agents of the Crown. His Lordship also declined to make a declaration that Mr. Kennedy's letters patent were valid, and held that there were no special circumstances to justify a departure from the ordinary rule that the Crown neither paid nor received costs.

AIR POST STAMPS

By DOUGLAS B. ARMSTRONG

Air Post in Japan

THE inauguration of a Japanese air mail service on April 20 recalls the previous attempts that have been made in the aerial transport of mails in Japan, several of which have ended in disaster.

The earliest experiment was made by the American aviator Atwater, who essayed to fly from Yokohama to Tokio in a Curtiss biplane on June 2, 1921. The machine crashed after traversing only a portion of the route, and the mail of souvenir cards issued for the occasion was forwarded by ordinary methods. A special cancellation was struck in red upon these cards. It is circular in form, and inscribed "Japanese Aerial Post."

A souvenir card was also issued in connection with a national aviation meeting at Naruo on June 15, 1914, under the auspices of the Imperial Aeroplane Society, and these, too, were cancelled with a special postmark containing the device of a falcon in flight, and Japanese inscription throughout.

On October 3 and 22, 1919, took place the first official essay for the establishment of air post communication between Tokio and Osaka, both of which flights failed. Special stamps of 1½ and 3 sen were prepared in considerable numbers with the outline of an aeroplane overprinted in red or blue, but comparatively few were actually "flown," even part of the way.

Some further mail flights were carried out between Osaka-Zeutsuji-Oita-Kusume in June, 1920, between Tokio and Osaka on November 3-11, 1922, and in the same month from Toyshera to Ohdomane, the Island of Saghalien, when distinctive postmarks were also used, but further information concerning these flights is unavailable.

It is to be hoped that the latest development in the Japanese air mail service will be attended with greater success.

Albanian Air Post

UNDER date of April 20, it was reported from Tirana that a passenger service had been instituted by the Adria Aero Lloyd, and that mail flights would be put in operation in about a fortnight's time. For the first flight, it was proposed to apply a special overprint to 1,500 sets of the air-post stamps already described in this column.

Paris-Lake Chad Covers

AIR-POST letters carried on the uncompleted flight from Paris to Lake Chad by Col. de Goys and Capt. Pelletier d'Oisy of the French Air Service are now being offered on the Continent. Only 140 flown covers are said to exist, consisting of special envelopes with a vignette of the aeroplane "Rolland Garros" at the top, accompanied by the inscription "Mission Colonel de Goys, Capitaine Pelletier d'Oisy—Avion Rolland Garros—Paris-Lac Tchad 1925." These covers were photographed by one or both, of the aviators, and further impressed with a distinctive cachet lettered "Voyage d'études—Mission Aérienne 1925" in red or black. Some semi-official *etiquettes* were also prepared for this flight in primitive designs, but do not appear to have been used.

New Hungarian Air Post

SOME highly-coloured, but presumably unofficial vignettes were issued in Hungary on the occasion of the opening of a new air post line between Szeged and Budapest, on April 13, lithographed in large oblong format with a picture of a Magyar man and woman in national costume, watching an aeroplane flying over a bridge. They exist both with and without expressed values in violet and green (1,000 kr.) and brown and blue (2,000 kr.), the two centre rows in each sheet being *tele-beche*. Special cachets were also employed for the first flight, both at Budapest and Szeged.

New Issues

THE latest set of Siamese air post stamps has been augmented by two additional values, viz., 2 satangs brown and 1 baht, blue and brown issued on April 1 (Siamese New Year).

Hungary also has added a couple of new denominations to the air post series inaugurated twelve months ago in a design representing the spirit of "Flight" hovering over Budapest. They are 5,000 korona purple and violet, and 1,000 kr. carmine and lilac.

A new 20 centimes value, printed in light and dark green, with an impressionist picture of an aeroplane crossing the Alps has lately appeared in Switzerland.

Ten stamps, ranging in value from 2 groschen to 2 schilling, are included in a new set of Austrian air post stamps, due for issue this month, in designs by Prof. Sterrer, one of which shows the head and shoulders of an aviator, while the other depicts an aeroplane on the wing.

SIDE-WIND

THEIR first million miles' flight on spirit supplied exclusively by the Shell Company has just been completed by the fleet of Imperial Airways—an eloquent tribute to the security of aviation and the reliability of the motor spirit consistently used. This mileage is the equivalent of two return trips to the moon—and a few thousand miles to spare!

NEW COMPANY REGISTERED

LONDON AERO CLUB, LTD., 3, Clifford Street, W.—Capital £100, in £1 shares. To promote, assist and encourage aerial navigation in all its forms and the study of aeronautics, also the development of all sciences connected therewith, and the construction of aerial conveyances of all kinds, to establish, maintain and conduct a club, etc. The directors shall from time to time be appointed by the Committee of the Royal Aero Club.

SOCIETY OF MODEL AERONAUTICAL ENGINEERS (London Aero-Models Association)

THE two competitions for the Kelly and K. and M.A.A. Cups were held at Wimbledon Common on June 6 under ideal weather conditions. The number of competitors was distinctly good and the all-round exhibition of flying was very fine.

Results

K. & M.A.A. Cup

(Distance Competition for Fuselage Models.)

Name	Maximum Distance Flown	Marks for Stability		Total Number of Points	Position
		Longitudinal	Lateral		
L. A. Gray	214 yds.	100	80	394	1st
F. de P. Green	165	100	90	355	2nd
C. A. Rippon	140	100	90	330	3rd

The Kelly Cup Competition (for compressed air models) resulted in a win for Mr. D. A. Pavely with three spectacular and high flights of 55, 54½, and 60 secs. These flights were greatly applauded by all present.

The presentation of the cup and prizes by Mr. Felix Kelly and Mr. A. F. Houlberg brought the official proceedings to a close. Flying continued, however, well into the evening. Mr. C. A. Rippon and Mr. R. N. Bullock putting up the following records:

Mr. Rippon's were as follows:

Farman type (spar)—

Hand launched 37½ secs.

R.O.G. 32½ secs.

(Fuselage) hand launched .. 16 secs.

Mr. Bullock's record was as follows:—

Enclosed fuselage tractor (hand launched) 42½ secs.

B. K. JOHNSON,

Competition Secretary

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1924

Published June 11, 1925

755. A. LAMBLIN. Feeding devices for cooling systems of i.c. engines. (212,226.)
- 3,879. FAIREY AVIATION CO., LTD., and F. G. T. DAWSON. Controlling elements of aircraft, etc. (233,780.)
- 3,978. C. P. LUCAS. Aeroplanes. (233,787.)
- 4,271. VICKERS, LTD., O. D. LUCAS and W. B. CADDELL. Practice bombs for aircraft use. (233,804.)
- 6,411. H. JUNKERS. I.c. engines. (212,923.)
- 23,722. CIE D'APPLICATIONS MECANQUES. Shock-absorbers. (228,853.)
- 29,469. C. DESOUTTER and DESOUTTER BROS., LTD. Sliding seats. (234,003.)

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